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Working Group on Recommendations for the 1980 Round of Population and Housing Censuses in Africa

Addis Ababa, 10-14 July 1978

REPORT OF THE WORKING GROUP ON RECOMMENDATIONS FOR THE 1980 POPULATION AND HOUSING CENSUSES IN AFRICA

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A. ATTENDANCE AND ORGANIZATION OF WORK

Opening of the meeting

1. The meeting of the Working Group on Recommendations for the 1980 Population and Housing Censuses in Africa was held at ECA Headquarters, Addis Ababa, from 10 to 14 July 1978. The meeting was opened by the Officer-in-Charge of the Economic Commission for Africa.

Attendance

2. The meeting was attended by fourteen experts from the following countries invited in their individual capacities: Ghana, Kenya, Lesotho, Madagascar, Mali, Mauritius, Nigeria, Senegal, United Republic of Cameroon, United Republic of Tanzania, Tunisia, and Uganda.

3. Representatives of the following agencies attended as observers: United Kingdom Ministry of Overseas Development, United States Agency for International Development and SIDA. The meeting was also attended by a representative of the International Labour Organization. In addition, representatives of the United Nations Population Division, the United Nations Fund for Population Activities (UNFPA), the Regional Institute for Population Studies (RIPS), Legon, Ghana, the Institute for Demographic Training and Research (IFORD), Yaoundé, United Republic of Cameroon, Union Douanière et Economique de l'Afrique Centrale (UDEAC), Bangui, Central African Empire attended the meeting.

Election of Officers

4. Mr. F.J. Falodun (Nigeria) was elected Chairman of the meeting, with Mr. J. Tayo (Cameroon) as Vice-Chairman and Mr. J.Y. Ofusu (Ghana) as Rapporteur.

B. AGENDA

5. The Conference adopted the following agenda:

1. Opening address by the Executive Secretary
2. Election of officers
3. Adoption of agenda
4. Progress Report on the 1970 Round of Censuses
5. Review of experiences
   - (a) Programming and organization of censuses
   - (b) Budget
   - (c) Census cartography
   - (d) Census publicity
   - (e) Concepts, definitions and classifications
   - (f) Enumeration procedures
   - (g) Census documents
   - (h) Census tests
   - (i) Use of sampling
   - (j) Recruitment and training of personnel
   - (k) Data processing
   - (l) Coverage and post-censal evaluation
   - (m) Analysis of census results
   - (n) Publication and dissemination of results

6. Review of technical assistance
7. Recommendations
8. Adoption of report

C. ACCOUNT OF PROCEEDINGS

Opening address

6. After welcoming participants, the Chief of the Policy and Programme Co-ordination Office (who in the absence of the Executive Secretary was the Officer-in-Charge of the Commission) noted that the Working Group had been convened at the request of the tenth session of the Conference of African Statisticians.

7. The Officer-in-Charge of ECA pointed out that only one set of recommendations on population and housing censuses was being prepared for the 1980 round instead of the usual two separate documents.

8. He called for innovation in the topics investigated in the censuses. In addition to the usual topics, community level and other variables which could be used as indicators of the quality of life should be enquired into.

9. The Officer-in-Charge also urged that the content of population and housing censuses should be viewed in the general context of the data collection systems available in individual countries.

10. In this connexion, he emphasized the role of the African Household Survey Capability Programme (AHSCP) in assisting countries to secure data needed for socio-economic planning and policy formulation.

11. Finally, he stressed the need for the Group to propose guidelines for the analysis of census data and suggest ways and means of speeding up the process of publishing the census results.

Progress report on the 1970 round of censuses

12. The secretariat's presentation was based on details given in the Progress Report on African Censuses, E/CN.14/CPH/44. It was noted that 42 African countries had conducted population censuses since 1966 and 18 of these had participated in the African Census Programme (ACP). Two more of the countries participating in ACP were expected to enumerate their populations shortly, while the remaining two had local conditions temporarily unsuitable for census-taking.

13. Two additional countries which had not previously undertaken a population census had expressed the intention of doing so and the 1980 census round was already well under way.

14. In discussing the report, the Group was especially concerned with the reason why ACP had been terminated at the end of 1977 and replaced by the Regional Advisory Service in Demographic Statistics (RASDS); the question was asked whether the change implied any changes in objectives. The question was examined with some care and the following basic factors emerged:

(1) ACP had been conceived as an emergency operation in 1971 to help the 22 participating countries to enumerate their populations by World Population Year in 1974. Due to operational delays it had been necessary to extend the programme for three years until the end of 1977. The original objectives had now been largely achieved and it was therefore logical to terminate the emergency operation.

(2) In view of the continuing need for advisory services in the 1980 round of censuses, UNFPA had agreed to maintain the ACP regional component and other supporting services at UN Headquarters in the form of RASDC. Participation of the ECA secretariat in censuses would be increased because of the re-allocation of a senior staff post mainly to census and survey duties.

(3) As a result of growing African interest in civil registration, an effort was being made to provide additional advisory services in this field.

(4) There was a need for additional assistance for the analysis of census results. Measures would include the appointment of two inter-regional demographic advisers, of whom one was expected to be an African.

(5) As a follow-up to the success achieved by the African Census Programme the Conference of African Statisticians had been developing arrangements for the African Household Survey Capability Programme (AHSCP), which would be concerned with the establishment of permanent national survey organizations and the provision of continuing supplies of integrated economic, social and demographic data. A regional component, expected to be financed by UNDP, would initially comprise two survey specialists and might later be extended with bilateral participation.

15. At ECA, the regional components of RASDC and AHSCP were intended to operate as a co-ordinated team under the direction of the Statistics Division's Deputy Chief. There was therefore a significant increase in the manpower available to advise countries on census and survey operations. In line with the recommendations of the Conference of African Statisticians the new effort in these fields was concerned with the establishment of continuing programmes of data collection in which population censuses would be benchmark events.

16. The Group considered its own composition in relation to the rather broad requirements for adequate census recommendations. Participants were introduced individually and it was clear that the Group covered all recent African census experiences very adequately.

17. A question was raised about the problem of allocating supporting services to census operations, particularly in relation to the use of local experts. It was pointed out that Africans were already serving as regional advisers and country experts and an increasing number would do so in the future. In addition, the tenth session of the Conference of African Statisticians had considered means by which it could assume a more directly operational role. One of its intentions was to establish an inter-Governmental advisory service in statistics and ECA had been requested to compile a register of African experts available for short-term missions in particular subject fields. There were therefore good prospects for utilizing the growing supply of African statistical expertise.

18. Some concern was expressed about the drain of resources from national statistical services arising from such advisory services and the continuing loss through transfers. In this connexion, attention was drawn to the Statistical Training Programme for Africa, also established by the Conference of African Statisticians at its tenth session, which aimed at a 60 per cent increase in enrolment at the regional statistical centres. If this target was achieved there would be sufficient statistical manpower to meet the requirements of the central statistical services, other branches of government and the private sector.

19. A few amendments to details in the working document were noted. In addition UNFPA provided information on the creation of five new sub-regional offices in addition to the former three. The effort was welcomed by the Group and it was appreciated that performance would be improved not only in administrative matters but also through the technical contributions of the experts concerned.

20. Bearing in mind the diversity of conditions relevant to census operations in Africa, the Group decided that its recommendations for 1980 round of censuses should be formulated in a manner capable of flexible application.

Review of experiences

21. The discussion on this item of the agenda was based on the document entitled "Study on methods and problems of the 1970 round of African population and housing censuses", E/CN.14/CAS.10/15.

(a) Programming and organization of censuses

22. The relevant paragraphs for the consideration of this subitem are 7 to 38, 59 to 109 and 113 to 115.

23. The Working Group noted that there are differences in country practices concerning the legal basis of the census. In one group of countries, the existing law concerning statistics is adequate to permit the undertaking of surveys and censuses at any time as needs dictate. In some of these countries, however, it is necessary to back up the existing law by a presidential proclamation, a ministerial order and/or guidelines. In another group of countries, laws or decrees concerning statistics also exist but do not give authority to the statistical officials to undertake surveys and censuses at a given moment, for which special laws or decrees are necessary. The Group was of the view that the existence of a permanent law concerning the implementation of censuses and surveys seems to have more advantages but that it might be difficult to change country practice as far as legislation is concerned. As a result, it merely recommended that the countries should make arrangements well in advance to ensure that the legal basis of the census was established to permit the proper initiation of the operations at the proper time. The Group also considered that the objectives of the census should to the greatest extent possible correspond to the requirements of the users, which might vary with time. As a result, where there is a permanent law concerning the census, it seems desirable to specify the objectives of each operation in another appropriate text.

24. The Group recognized that it is necessary to prepare, also at the initial stage of the census, a provisional timetable containing the main dates of the operations in order to enable the local authorities and the financing and aid organizations to get a better idea of the different aspects of the project, particularly as regards the budget. It recommended that the timetable should

be revised as the programming of the census proceeds, with the objective of fixing the final dates as soon as possible. Stress was laid on the need to identify carefully all the operations which are to be carried out and to spread out the different phases of the programme for the implementation of the census, taking into account the resources which it will be possible to mobilize.

25. The Working Group felt that the central office responsible for the technical implementation of the census should be set up as soon as possible. It was in favour of setting up a permanent nucleus composed of statisticians and demographers and of specialists in such fields as cartography and data processing so as to ensure continuity in post-census work and prepare for the next census. The permanent nucleus should be strengthened during the census implementation period in order to carry out the following tasks effectively: cartographic work, field organization, data processing, training and publicity, logistics, financial and administrative operations. The Group emphasized the need to provide the census office with adequate numbers of qualified staff to enable it to carry out successfully the many difficult tasks entrusted to it. It recommended that use should be made of qualified personnel belonging to other State departments to the extent that the statistical services do not have all the necessary expertise. Finally, it felt that it was desirable to make adequate premises available to the central census office.

26. The members of the Group did not reach unanimity on the question of census committees. Several experts said that setting up various committees (national, technical, publicity, etc.) might hamper the proper conduct of the census operation. Such committees are sometimes difficult to convene, while in certain cases it is necessary to take urgent decisions. Moreover, discussion in such committees does not always contribute to the success of the operations, given the fact that the members participating in them change frequently and therefore differences might result. Other experts, however, pointed out that the census committees had proved very useful in several countries. Finally it was decided to recommend the establishment of such committees in the light of each country's requirements, circumstances and level of statistical development.

(b) Budget

27. Introducing this subitem, the secretariat referred to paragraphs 39 to 49 and 110 to 112 of the background document. The Working Group recognized that the budget is of vital importance in the implementation of a census. It was of the view that the main difficulties during the preparation of the budget relate to poor understanding of the different operations to be carried out. In order to avoid duplication and omissions as far as possible, it felt it desirable to make an estimate of the costs relating to the different phases of the census, namely cartographic work, the pilot census, the census proper, data processing, assessment of the coverage and/or the quality of the census, analysis of data and the publication of results. Those costs should be broken down in order to distinguish staff costs, expenditure on equipment and sundries. The Group was informed that a study was being conducted, at United Nations Headquarters in New York, of the structure of expenditure for the population censuses carried out under the African Census Programme. The results of that study might be circulated to the countries of the region to enable them to get a better idea of the various operations to be carried out in their future censuses.

28. The Working Group also considered the questions concerning the approval and management of the census budget. It recommended that the budget should be approved as early as possible and that the procedure relating to the management of the budget should be simplified to the greatest extent possible in order to ensure that the operations were implemented according to the agreed timetable. In that context, it was suggested that it would be more appropriate to practice of financial autonomy and a posteriori verification of expenditure as regards the funds for the census. It was proposed that verification of United Nations funds should be carried out by the local office of the United Nations Development Programme (UNDP) not by the experts who are to be relieved of all administrative tasks.

29. Finally, the Group expressed the view that some countries now have extensive experience in the conduct of a census and that it is not necessary, as far as they are concerned, to make provision in the budget for the recruitment of a resident expert.

(c) Census cartography

30. Introducing the topic, the representative of the secretariat referred to paragraphs 116-130 of the background document (E/CN.14/CAS.10/1) and explained that all the countries participating in the African Census Programme made plans to use census maps for their enumeration but that a few did not actually use the maps produced because of their poor quality. He listed the main problems encountered in census cartographic work in Africa: lack of adequate base maps, high cost of the mapping operation, difficulties in obtaining physically identifiable boundries for Enumeration Areas (E.A.'s) and in plotting localities with reasonable accuracy without employing time-consuming and costly survey techniques, poor field work by cartographic assistants and lack of proper equipment for drawing and reproducing the maps.

31. In the discussions which followed, the Working Group endorsed the importance of cartographic work in the general framework of census operations, though one participant had some reservations about the high cost of census mapping in relation to its usefulness. He argued that the use of interviewers with knowledge of the area could be an alternative to the detailed mapping usually undertaken to prepare E.A. maps but this view was not generally accepted by the Group.

32. It was stressed that the frequent changes in administrative boundaries had implications for the demarcation of E.A.'s and it was suggested that when such changes take place E.A.'s should fall wholly within the new administrative divisions. It was also stated that if easily identifiable physical features could be used in fixing the boundaries of local authorities, they could prove to be very useful sampling units and also aid in the demarcation of E.A.'s.

33. With respect to the quality of census maps, it was the view that the census office should not attempt to do the work normally required to be performed by the Survey Department. Its primary function is to prepare E.A. maps as an aid to the census enumeration. In any case, co-operation between the Census Office and the Survey Department in the preparation of such census maps was desirable.

34. It was pointed out that lists of localities should be prepared for use together with the census maps.

35. The Working Group also urged that a cartographic unit should be set up within the Census Office to prepare the census maps. This unit should be retained after the census to up-date census maps, to exercise proper control over the filing of census maps and to take periodic inventory of the census maps. There was also a need to prepare a census atlas, containing maps of population characteristics. While some countries might be unable to prepare this atlas because they lack the necessary resources they should at least produce one map showing the spatial distribution of the population.

(d) Census publicity

36. This item was introduced by a representative of the secretariat who referred to paragraphs 101-107. He stressed that census publicity (or communications) was now recognized as essential to a successful census. He reviewed the usual types of media used in a census publicity campaign and pointed out some of the effects of the wrong type of publicity.

37. In the discussions which followed, the Working Group stressed that when regional and district publicity committees were set up central co-ordination was needed. If directives were not issued from a central office, problems might arise from regional and district interpretations of the objectives and scope of the census and this might cause some problems for the census organizers.

38. It was pointed out that publicity campaigns tended to be aimed at the general population. There was also a need to sensitize the central authorities and regional and district administrators who provide the main backstopping for census operations.

39. It was also pointed out that the word "census" invariably invoked the spectre of inflated population figures in some countries and that the Working Group might do well to consider that problem. The representative of the secretariat explained that this might require a two-pronged attack: re-education of the population and de-emphasizing of the population factor as the sole or main criterion in the allocation of resources.

40. Finally, it was argued that, for publicity to have the proper impact, careful consideration should be given to the timing of census announcements and to the association of such announcements with particular persons or events in order to avoid the effects of negative association.

(e) Concepts, definitions and classifications

41. The discussion focused on paragraphs 129-136. Introducing the topic, the representative of the secretariat stressed that a population census was not only a demographic enquiry; it also investigated the social and economic characteristics of the population. In addition, due to the new emphasis on meeting the basic needs of the population, the housing questions should include as a minimum all the elements which might be described as the basic needs of the household. He stated that census information was generally obtained at three levels: the community, the household and the individual. Apart from maintaining a proper balance among topics relating to demographic or social or economic characteristics, an equitable distribution of census topics among community, household and individual variables should be aimed at.

42. He referred also to the relevant sections of the report of the tenth session of the Conference of African Statisticians dealing with this topic.

43. In conclusion, he referred to the time reference for the questions on economic characteristics. Different time references were used, e.g. one week, one month, one year, and the respondent's main or usual activity during this reference period was investigated.

44. The Working Group then discussed in some depth the following concepts outlined in the background document:

(A) Population: The merits and demerits of the de jure and de facto concepts were examined. The consensus was that it was desirable to collect information on both de jure and de facto population. This could be done by dividing the population to be enumerated into three categories: (i) usual members (of household) present, (ii) usual members absent and (iii) visitors. Categories (i)+(ii) would give the de jure population, while (i)+(iii) would give the de facto population. If a particular country preferred a particular definition of the population, then the detailed information could be collected in respect of this population. However, for the other population, some information, however limited, could be collected. For visitors, it was argued that information should be collected on destination (on departure from place of enumeration). This would facilitate cross-checking of information of usual members absent with visitors.

(B) Locality: It was pointed out that the United Nations definition referred to in the document was not enough to define a locality. A distance-separation criterion was required. In reply, the representative of the secretariat stated that usually 200 metres separated the last built-up area of one locality from another.

The merits of using the locality rather than the village approach were examined. It was felt that in some countries the use of the village concept was imprecise and could lead to problems due to the multiple allegiance of the villagers. In other countries, the village was considered a very precise and unambiguous entity. In such countries, one locality was generally made up of several villages. In view of the administrative importance of the village, it was argued that, in these countries, if information was tabulated by locality, it should also be tabulated by village.

(C) Urban/Rural: The criterion of the proportion engaged in non-agricultural activities was not generally considered sufficient to define an urban locality. Factors such as type of buildings, type of infrastructures which exist, size of the agglomeration and administrative function were all important in deciding whether a locality should be classified as urban or rural.

It was felt, however, that for this topic, as well as for others, a uniform definition or concept for Africa may not be possible or even desirable. Each country will have to develop its own concepts. If no standard measure could be adopted, the question of international comparability could be met if countries tabulated their results by population size groups.

(D) Household: It was generally considered that the definitions of "household" used in the 1970's were generally an improvement on those used during the 1960's though many problems still remained. It was pointed out that, in some countries, while the household concept applied in censuses was successful in breaking houses into households, problems were created for surveys such as the household income, consumption and expenditure surveys, in those cases where husbands and wives resided in different houses. Even for the census the definition was not unambiguous, since in tests carried out in one country two sets of interviewers divided houses up into different households. One particular country avoided the household concept altogether because the complex living and eating arrangements within concessions by persons who were related to each other made it difficult to divide the concession into households. It was suggested that family composition might be more appropriately investigated.

However, it seemed to be the consensus that the household should continue to be the unit of enquiry in censuses and that more research should be carried out in individual countries to improve the related concepts and definitions. In this research, it was suggested that the idea of the communality of life should be considered.

(E) Relationships: It was suggested by some that the problem of courtesy titles could be solved by recruiting local interviewers who know the population and understand their social practices. Post-census validation checks could also be carried out.

(F) Age: The widespread use of documents attesting to age should be encouraged. This was one way of overcoming the defective age data collected in censuses. Also by enumerating children together with their mother it is possible to check their ages in relation to spacing between offspring of the same woman.

(G) Economic Activity: It was pointed out that in certain countries the census organizers could not ask questions of persons under the legal minimum age for employment. Also, the concept of economically-active population depended on certain extraneous factors and might change from one season to another.

The Working Group also considered the measurement of activity either on a current or usual basis. The main objection to the current status approach is that it describes a situation at a point in time, which may be a typical for most of the year. In reviewing the economic situation in a country, some may question whether typical situations exist. However, the current status approach is a precise measure while the usual status is a more stable measure.

A representative of the secretariat pointed out that one country tried to solve the problem through a compromised solution. It distinguished between those who worked during the reference period and those who "had a job but did not work" because it was during the off-season for farmers or they were sick or on strike, etc.

(H) With respect to the topics to be included in population censuses, the Group endorsed the list in paragraph 222 of the background document. The following housing items were recommended: number of houses, type of housing unit, type of occupancy, material of wall, material of roof, material of floor, source of water supply, source of light, source of fuel, type of toilet, bathing facilities and number of rooms.

However, some reservations about the housing data were made. It was stated that the information collected was generally not analyzed. Accordingly, the types of data collected in the past should be examined more critically to see how useful they had been.

A plea was made for ethnic origin to be recommended as a priority topic in view of its inter-relationship with many of the variables to be analyzed. In view of the controversial, political nature of this topic, the Working Group agreed to endorse it strongly without recommending it as a priority topic.

(I) The tabulations in paragraphs 226 were also endorsed. It was however emphasized that they should be checked to ensure consistency between the recommended topics and the suggested tabulations. Additional tabulations should be added to correct any inconsistencies.

(f) Enumeration procedures

45. The paragraphs relating to this topic are numbered from 227 to 250.

46. The Working Group felt that in view of the unreliable memories of the informants, the duration of enumeration should not be very long especially in the case of a de facto census.

47. If use is made of teaching personnel the fixed duration should also be observed by the authorities, in order not to disrupt school schedule.

48. The Working Group also mentioned the desire to cut down the counting periods to a minimum, to reduce counting errors and thereby obviate the need to correct the results at the time of publication.

(g) Census documents

49. Following the introduction of the census documents described in paragraphs 251 to 256, some experts expressed the desire to reduce the number of documents. It was nevertheless recognized that these documents were useful for the implementation of the various phases of the census and that the desirability of reducing their numbers should be considered in the light of local constraints. The Working Group suggested that the cost of printing the documents could be reduced by having them cyclostyled. As far as the questionnaire was concerned, it referred to the precoded questionnaires which greatly reduced the number of documents during the coding phase and limited the number of coding errors. It was pointed out that with a view to reducing the volume of the handbooks, some detailed instructions could be included in the questionnaire.

50. The Working Group noted that, in practice, the enumerators when asking the census questions did not follow faithfully the instructions given in the

handbook. Accordingly, it was advocated that the enumerators should be closely supervised by the inspector during the initial days of the census in order to ensure that they applied the instructions properly.

51. The Working Group felt that special importance should be given to the development of historical events date schedules appropriate for specific areas of countries. These historical events date schedules which have proved an invaluable tool for estimating age, can be used in conjunction with age relationships between the persons in a single household.

52. Finally, the Working Group felt it would be useful to add to the list of the documents contained in paragraphs 241 to 256 two others, namely, the list of villages (with all their relevant identifications) and the list of the seasons according to local terminology.

(h) Census tests

53. The relevant sections of the document for discussion were paragraphs 257 to 264. The representative of the secretariat, introducing the item, stressed that census tests had become recognized as an essential element in the preliminary census process. Various types of tests could be carried out: Tests on the whole census machinery and tests on specific aspects of the census such as the suitability of census questions, the choice of the best method for enumerating nomads etc. The Working Group was asked to suggest general guidelines for tests in general and the content of each test in particular.

54. In the discussions which followed the participants stressed that the results of the pilot census should be fully utilized for improving procedures for the main census. The pilot census could be used as the basis for preparing preliminary coding instructions, coding lists, training procedures, determining useful tabulations, making preliminary tabulation plans and for preliminary evaluation and analysis. It was pointed out that if these steps had been taken in a number of countries some of the problems which cropped up later when processing and analysing the data could have been avoided. Many participants, however, felt that the main constraints to the full utilization of pilot census results was that insufficient time was allowed and insufficient budgetary provision was made for it. Moreover, when the pilot census was carried out a year before the actual census, as generally proposed, the maps for the enumeration were usually not ready and therefore that aspect of census work (i.e. suitability of census maps) could not be tested. In some countries also the computer facilities which would be used to process the census data had not been installed by the time of the pilot census and therefore no automatic processing of the data was possible.

55. Various types of tests were identified by the participants as essential. For example, tests on the suitability of census maps, tests of the questionnaire in both rural and urban areas and among different classes of the population and tests of the census logistics. These tests are in addition to the pilot census. In certain cases, they can be combined with it. Each test has to be processed and analyzed and its results taken into account in improving the procedures for the census.

56. In view of the limited resources, both technical and financial, available in the region, the Working Group thought that ideally there should be two tests before the main census

(a) A first field test which might show up some problems that need further investigation. It might well be that some of these problems would make it necessary for more specific tests to be devised in special areas.

(b) A pilot census which should be held under the same general conditions as the census and whose results should be processed, evaluated and analyzed.

57. Some participants however felt that tests should not only be limited to the period when active preparation for the census starts. The inter-census period could be utilized for tests of the suitability of specific questions or procedures. In this connexion the household survey programmes in each country offered a suitable mechanism for that type of testing.

58. The Working Group emphasized that if the results of the pilot census were not utilized it was a waste of resources to carry it out.

(i) Use of sampling

59. The Working Group considered paragraphs 265 to 303. The representative of the secretariat in his introduction remarked that sampling could be used in different stages of the census operation: census tests, data collection, quality control, coverage and content error evaluation and tabulation, etc. He stated th at very few of the census tests carried out in Africa had used random sampling procedures. Two types of sampling plans during the data collection operation had been used: an inbuilt sample and the post enumeration survey for the collection of additional data. The former had made use of samples of E.A.'s but in view of the need for data on a small area basis, the possibility of using a systematic sample of households in the totality of the E.A.'s should be explored in the more statistically advanced countries in the region. With respect to quality control little or no quality control schemes were in use during the 1970 round.

60. In the discussions which followed the Working Group considered the advantages and disadvantages of selecting a sample of households. It was felt that in most African countries it was more convenient to use a sample of E.A.'s. However it was recognized that in view of intra-cluster correlation the standard errors of estimates based on samples using clusters of E.A.'s were likely to be much greater than those of samples using clusters of households. One way of dealing with the problem was to reduce the size of the E.A.'s or to sub-divide them so that the areas selected contained on the average a population of about 300 to 500.

61. Where inbuilt samples were used and long and short questionnaires administered, it was essential that proper control should be exercised over the allocation of the long and short questionnaires to the appropriate E.A's. Wrong allocation could result in unknown biases.

62. The meeting also considered the usefulness of allocating long questionnaires to all E.A's in urban areas but to only a sample of E.A's in the rural areas, the remaining rural areas being covered by short questionnaires. It was pointed that if proper estimation procedures were followed that approach did not necessarily result in any biases. The main reason for that type of allocation as given in most countries was that there was greater variability in urban areas than in rural areas and thus a small sample in the rural areas could adequately reflect the rural situation. However, in at least one country

it had been found that there was as much variability in the rural areas as in the urban areas, though probably not in the same characteristics. Thus variability alone could not be used to justify sampling in the rural areas.

63. Various suggestions were made with respect to ancillary variables which could be used to improve estimation by the use of the ratio type of estimator such as age, sex, relationship, number of dwelling units, population size, number of taxpayers on the assessment list, results of surveys/censuses. Suggestions were also made about the calculation of variances. It was recommended that variances or standard errors should be shown for most of the important estimates derived from samples. The representative of the secretariat informed the meeting that there were currently a number of software packages for calculating standard errors, the latest being the one produced by the World Fertility Survey, Secretariat.

64. Field problems relating to systematic selection of households for the administration of long questionnaires had been dealt with at the IASS workshop on sampling techniques held in New Delhi at the end of 1977. The representative of the secretariat replied that when the report of that workshop was ready it would be circulated to countries in the region so that the suggestions regarding methods for dealing with that type of problem could be studied. With respect to the practical problems of the selective training of enumerators in the use of long and short questionnaires, the representative of the secretariat suggested that the best solution would be to train all enumerators in the use of long questionnaires.

65. It was also emphasized that results derived from samples were subject to sampling error in addition to other types of error. Therefore blind use of such figures to correct census results without taking into account the standard errors of the estimates should be avoided.

66. Finally, the Working Group requested the secretariat to prepare a paper on sampling procedures especially with regard to the use of long and short questionnaires and randomization procedures in the systematic selection of households.

(i) Recruitment and training of personnel

67. In the light of the information contained in paragraphs 324 to 329, the Working Group recommended that the recruitment and training of coders, editors, key operators and census analysts should be included in this part of the discussion.

68. The Working Group emphasized the need to carry out the census during the school holidays, if use was to be made of teachers. In cases where training could not be conducted during school holidays, it was suggested that training programmes be phased over time in order to avoid interrupting teaching for a long period. It appeared to the Group that the use of very high-level personnel as enumerators adversely affected the quality of the census.

69. The Working Group recognized that the use of persons who had already worked in some phases of the census (cartographers or enumerators) as coders had given good results.

(k) Data Processing

70. Participants in the workshop all expressed concern over the long delays experienced in the past between the termination of census field enumeration and the publication of results. The delays were attributed to the two major procedural phases of census data preparation:

(i) data processing, and
(ii) printing

Various ways of overcoming the difficulties with data processing were considered. It was acknowledged that when planning the over-all census programme, the processing and printing of the data should be given a definite place; a census should be conceived as one integrated system of data collection and data processing. It was stressed that demographers and statisticians should be given the opportunity to learn about modern data processing facilities using software packages. In this respect the Working Group invited the ECA secretariat and/or the UN Statistical Office in New York to produce a manual on census data processing procedures for the use of demographers, statisticians and staff involved in census planning and data processing. Such a manual would be an invaluable guide. The Working Group also expressed the desire for the ECA secretariat to convene a Working Group meeting on census data processing to which it could invite demographers/statisticians and staff involved in census planning and processing of census data. The aim of such a Working Group meeting would be to:

(i) establish a common basis for the understanding of the problems and requirements of each phase of the census programme, and

(ii) to achieve a common approach for census data collection and processing.

71. The Working Group considered the bottlenecks in census data processing to be due to the lack of data processing expertise and facilities in the countries of the region and to the fact that, since governments did not pay enough attention to the need for timely recruitment and training of staff or to the need for providing appropriate conditions of service for data processing personnel, the staff had been leaving government services in search of more satisfactory working conditions in the private sector or abroad. The Working Group therefore recommended that governments should raise salary scales to competitive levels and improve working conditions for data processing staff.

72. The Working Group invited the ECA secretariat to assist governments interested in training data processing personnel by providing fellowships and to support the attempts of governments to arrange for training of candidates at international training institutes.

73. Providing a sufficient number of well qualified national data processing staff could also prevent a repetition of past experiences with expatriate experts assigned to census projects. In many cases the contracts of these experts had been terminated before census tabulations were ready and national data processing staff who were inadequately trained had had to take over their work only to get entangled in the difficulties of alien procedures, that had sometimes resulted in regettable delays. The Working Group recommended that every effort should be made in future to ensure continuity in the execution of assignments, either through properly-timed contracts of appropriate

duration for expatriate experts, or through the production of national expertise of a sufficiently high level.

76. It was considered essential for the successful integrated planning of the collection and processing of census data that demographers and data processing systems designers co-operate and collaborate in working out common specifications for tabulations, data validation rules and questionnaires.

75. The Working Group expressed great interest in the future employment of automatic correction procedures for correcting errors in census data. However, the Working Group acknowledged the complexity of the problem of defining correction rules which would not only be efficient but would also not bias census results. It was further acknowledged that such rules would have to be formulated by demographers. Statistics on type and frequency of data errors provided from a computerized data validation programme would also be an invaluable aid for the formulation of correction rules. The Working Group was informed that the UN Statistical Office had recently released a first version of its census record validation software CHECKIT which is presently on trial in some countries of the region. Mini-computer equipment can accommodate this software.

76. In view of the very short supply of manpower available for data processing and the time-consuming procedures they had to follow, the Working Group recognized that further consideration should be given to the possibility of using pre-coded questionnaires. This would be an invaluable contribution to the attempt to speed up processing of census returns.

77. Another reason for delays in the processing of census data was recognized to be that the software which had been developed on fast and sophisticated computer equipment was being used on unsophisticated and comparatively slow equipment.

78. The Working Group acknowledged that printing tables had taken too much time in the past. Consequently it endorsed the recommendation that techniques for obtaining photo offset printing directly from computer printouts be used, or even that the more sophisticated computerized printing techniques now available be used to obtain computer outputs for direct use.

(1) Coverage and content error evaluation

79. The Working Group remarked that comments on the topic would be limited not because countries did not realize the importance of evaluation methods, especially the post-enumeration survey, but because only a few had undertaken the post-enumeration survey in particular for their censuses.

80. Some members of the Working Group recounted their experiences with respect to the conduct of the post-enumeration surveys in their recent censuses.

81. The other types of checks such as internal consistency checks, checks with independent record sources (e.g. civil registration records) and sample surveys were also discussed and their usefulness stressed.

82. The attention of the secretariat was drawn to a mistake in one of the working documents paragraph 36 of the main document included Senegal among the countries that had not conducted post-enumeration field checks after their censuses.

83. The Working Group recommended (a) the acceptance of paragraph 369 of the main working document which stated that in future a post-enumeration survey for census evaluation should be planned, organized and executed as an integral part of the census and (b) that content errors should not always be evaluated in a post-enumeration survey but by other methods such as demographic analyses.

(m) Analysis of Census Results

84. The Working Group devoted a session to analyzing census results. Presentations were made by the representatives of the Population Division at Headquarters, RIPS and ECA Population Division. The participants focused on the following points:

(1) Importance of Census Analysis

85. The Working Group recognized the importance of census analysis, notwithstanding some difficulties faced by African countries, such as lack of funds and experts, non-availability of the relevant data, delays in data processing and failure to intergrate demographic variables in the national planning processes and agreed that efforts should be made to encourage analysis of census data in African countries.

(2) Objectives of Evaluation and Analysis

86. Evaluation and analysis of data were linked although the evaluation was often restricted to data omissions and reporting errors. Deficient data should be corrected by appropriate methods. In this regard the Group made it clear that most of these methods or procedures did not meet adequately the needs of the African data. It was therefore felt necessary to appraise, modify and adapt these methods to suit the characteristics of the African demographic data.

(3) Co-ordination with Data Collection, Data Processing and Tabulation

87. Closer co-ordination between experts at all three stages of the census programme should be encouraged. Due to the shortage of manpower in many African countries a national expert was often appointed to supervise all stages of the census. For this reason it would seem impossible for him to carry out a complete programme of analysis unless some assistance was offered from elsewhere (universities, research centres, international co-operation). It was brought to the attention of the Group that some software packages and programmes specially designed for census analysis could be made available.

(4) Problems of Access to Census Data for Analysis

88. It was alleged that some statistical offices were reluctant to make available census data to other professionals from outside the office to undertake the analysis.

89. However, it was pointed out that that might have been due to the fact that the statistical tables containing the requested data were either in the process of preparation or, if they had been prepared, had not been edited or balanced against some related prepared tables. In such cases it might have been deemed inadvisable to release such statistical tables which might have been incorrect at that time.

(5) The Necessity for a Minimum Programme of Analysis

90. The Group endorsed the proposal for the following minimum programme of census data analysis:

(a) Evaluation and correction of census data

(i) Age/sex adjustment of data
(ii) Age pyramid structure
(iii) Data consistency checks

(b) Spatial distribution and migratory movement

(i) Population density (national, regional)
(ii) Migration

(c) Natural increase

(i) Fertility: crude birth rate, age-specific fertility rates, total fertility rate, gross reproduction rate, trends
(ii) Mortality: crude death rate, age-specific mortality rates, infant mortality rate, trends

(d) Employment and economic activity

(i) Labour force participation rates (age/sex-specific)
(ii) Unemployment
(iii) Educational and occupational status data

(e) Projections

(i) National and regional
(ii) Households

(f) Population and differential case studies

Case studies on country development plans in the light of census results.

91. It was pointed out that the above minimum programme would contribute to efforts to improve the quality of data collected in censuses and surveys.

92. The review of the main items of the programme showed that more attention should be devoted to the family and household patterns.

(6) Need for a manual of appropriate methods for census analysis

93. The uneven availability of references in the language of publication made it difficult for all African scholars and experts to have an equal access to existing methodologies. Hence it was found desirable to compile a manual of appropriate methods deriving from various sources. The manual should indicate the availability of the publications in the various languages of the region. Such a manual should also spell out the comparative utility and efficiency of the various methodologies or techniques.

(7) Machinery for analysis: technical assistance

94. In spite of the limitations in data from African censuses it was suggested that at least some brief analysis should be attempted for immediate socio-economic planning purposes, taking into account the efforts and cost put into census work.

95. Governments should be encouraged to offer fellowships to data processing personnel.

(8) The need for training

96. The Working-Group endorsed the desirability of offering courses in data processing and computer programming to trainee demographers. The Group also suggested that demographic training institutions should give due emphasis in their teaching programmes to the evaluation, adjustment and analysis of census data.

(9) Conclusions

97. In the discussion of this item of the agenda, the following views were therefore emphasized:

(a) That due to the shortage of staff and resources for census analysis the proposal for a minimum programme of census analysis be endorsed.

(b) That emphasis on data analysis methodologies be given to trainee demographers to enable them to carry out census effectively.

(c) That technical assistance to member countries be boosted in the field of census analysis.

(d) That greater collaboration among statistical offices, universities, research centres and international establishments in this field be encouraged.

(e) That census analysis should not be academically oriented but rather geared to practical policy implementation.

(f) That the use of various techniques of census analysis in Africa be viewed with great caution, taking into account the realities of the available data and the state of development of the analytical techniques.

(h) Publication and dissemination of results

98. The topic was introduced by a representative of the secretariat who referred to the long time-lag between the completion of census enumeration and publication of the census volumes. It appeared that the main bottleneck was not in data processing but in the preparation of tables for printing and in printing itself. Various suggestions had already been made for processing tables by using computer print-outs for offset printing so that the publication of census results could be speeded up. It was also stressed that the

analytical and administrative reports should be published. A related question was the dissemination of census results. The representative of the secretariat suggested that statistical offices should advertise the sources from which census publications could be obtained. They should also prepare short summaries of the main results of the census for publication and distribution to a wider section of the public than would normally be reached by the census volumes.

99. In the discussions which followed the Working Group stressed the importance of the exchange of census publications among African countries. This could be done on a bilateral basis with ECA assisting the process by publishing a list of census publications available in each country. With respect to the delays in census publications many participants felt that the monopoly enjoyed in certain countries by Government printers and their inability to cope with tables and figures was the main reason for the delays. Another constraint was finance.

100. One way of ensuring speedy dissemination of census information was to use the machinery of the United Nations and its specialized agencies which publish abstracts from census results. It was pointed out that for this to be effective the statistical offices should co-operate by supplying information in their censuses to the United Nations Statistical Office and the relevant specialized agencies as quickly as possible. In general the Working Group endorsed the view that there was need to disseminate the census results as widely as possible.

Review of technical assistance

101. The review was presented by the secretariat on the basis of information provided in document E/CN.14/CPH/44 with the object of obtaining guidelines for future technical assistance based on the experience of the African Census Programme. The main conclusion which emerged from the review was that the emergency nature of the programme, by concentrating country requests for assistance in a period of two years, had caused unnecessary delays in the approval of project requests and in the supply of experts and other forms of assistance.

102. UNFPA gave information on its activities. The Fund had been established in 1969 and had provided some US$339 million in aid to the four developing regions. Among its various activities, demographic data collection accounted for 9 per cent of total expenditure, with a further 6 per cent allocated to data processing, analysis, etc. Research and training were the topics on which emphasis was placed in most countries.

103. An attempt was now being made to set up a new programme in the light of basic country needs. Using economic and demographic criteria, some 40 countries, including 19 in Africa, had been selected for special attention. These numbers had later been increased to 54 and 24. Missions were currently being undertaken to identify the priority areas for assistance in individual countries. To facilitate the organization of future activities, additional regional offices had been set up to maintain contact with Governments and technical agencies. These offices would also examine the needs of countries outside the group of 54; a list of the regional offices was provided.

104. The United Kingdom representative briefly described bilateral and multi-bilateral assistance to censuses and surveys, indicating that normal technical co-operation arrangements could be used and could be either long or short-term.

Equipment could be provided in addition to experts, but help in paying local costs was less favoured. Inquiries about technical assistance should be made through local British representatives.

105. The representatives of USAID and the US Bureau of the Census described the technical assistance arrangements of their agencies. The USAID population programme had been started in 1965 and included an annual contribution to UNFPA as well as direct assistance. Details were given of census training activities and direct assistance comprising finance, experts and equipment. A new project had been initiated concerning additional analysis of 1970 census data. There had been collaboration in ECA census training projects and further AID workshops were envisaged to complement training efforts of the African region. Emphasis had been placed on data processing and there was also bilateral support to demographic surveys and civil registration.

106. The UN Bureau of the Census had a special interest in census mapping and help could be given to workshops in this field. CONCOR, which was mainly an editing software package, had been re-written in COBOL thus making it more portable and again help could be given through training workshops. Thirdly, a new manual entitled "PopStan" had been written for the training of population and housing census professional staff and used the case study approach; lectures could be provided for workshops using the manual.

107. The assistance of the Swedish International Development Agency (SIDA) in this field is channelled through UNFPA on a multilateral basis. The bilateral assistance is provided in the form of statistical and data processing staff, equipment and financing of local cost. The bilateral component is limited to those countries with which SIDA has a development co-operation agreement.

108. The ILO representative reported on technical assistance to labour statistics provided direct through advisory services or through UNDP and multi-bilateral programmes. ILO was undertaking in its own specialized field work on methodology and concepts for censuses and surveys. There were plans to produce a manual on surveys dealing with employment, income, etc. and to contribute a chapter to the revised Manual on Household Surveys. ILO expected to station a regional expert in household surveys at Addis Ababa to collaborate with the African Household Survey Capability Programme.

109. The work of the Headquarters Population Division in the analysis of census data had already been described during earlier discussions of the Group. The representative of the Division reported that, as part of the restructuring at UN Headquarters, the section responsible for projects would be transferred to the new Department of Technical Co-operation for Development (TCD); that might simplify procedures for the evaluation of projects. He also mentioned that two inter-regional demographic advisers would be available and that a block allocation of funds had been established for fellowships in population studies.

110. Country participants drew attention to particular difficulties that had arisen in connexion with some country census experts. It was noted, however, that those were isolated cases which should not reflect unduly on the successful work carried out in the course of 75 country assignments organized in connexion with recent African censuses. The Group emphasized that national personnel were invariably in charge of any project and that technical expertise should be provided by local people whenever possible rather than by expatriates provided through technical assistance arrangements.

111. There was some discussion on whether the allocation of external project funds was dependent on the presence of external technical assistance personnel. In this connection it was noted that the intention was to rely very much less on foreign experts in the African Household Survey Capability Programme and to supply technical advice through regional survey specialists. It was suggested that means should be found to interest local trained professionals in the field of population activities so as to reduce the increasing exodus to other branches of government and the private sector for better conditions of work. This would improve the availability of such people for census and survey operations.

112. It was felt that international agencies were still not organizing their assistance in the light of real country needs but it was noted that the country priorities established by UNFPA would provide useful guidelines for the future. The Group also noted the continuing tendency for bilateral donors to provide assistance mainly to African countries in the same language group as the donor; reasons for this were partly traditional but the language barrier was a relevant consideration. In addition, reference was made to difficulties experienced in obtaining fellowships, even in cases where places had been awarded in overseas training courses.

113. Participants recognized that some of the problems enumerated arose in part from the recipient countries themselves. For example, a country could not always be certain of its precise technical assistance requirements, and there tended to be more bilateral arrangements in countries which had good political relationships with donors.

114. The final comment related to short country missions organized at short notice and apparently without any precise purpose. It was suggested that such occurrences should be brought to the attention of ECA because they reflected adversely on the work of serious advisory services.

115. In considering UNFPA guidelines for assistance to the 1980 round of censuses, the Working Group:

(1) welcomed the continued provision of expert services and equipment in the light of individual country requirements;

(2) welcomed the provision of vehicles for cartographic work, but noted also the need for expert services in this field;

(3) appreciated the intention to consider support in respect of printing costs where these were unduly high; and

(4) requested that consideration be given to the provision of more adequate assistance in the evaluation and analysis of census results.

Adoption of report

116. On 14 July 1978 the Group unanimously adopted this report and the Summary of African Recommendations (See Annex) as a true record of its work.

A N N E X

SUMMARY OF AFRICAN RECOMMENDATIONS

I. OBJECTIVES

The main objective of this summary of African recommendations is to assist census organizers and other officials who will be engaged in any part of the planning and execution of the 1980 or subsequent round of population and housing censuses, by providing them with guidelines on the various aspects of the census operation, especially in the areas of: topics to be investigated, data analysis and timeliness of publications.

II. BASIC PRINCIPLES

The recommendations have been formulated taking into account the following basic principles:

1. Account has been taken of the experiences of the 1970 round of censuses in Africa.
2. It is recognised that every country has the right to determine the content of its census questionnaire and other aspects of census methodology.
3. Conditions differ between countries not only with respect to the state of statistical development but also with respect to the data gaps and priorities.
4. Adaptations of concepts and classifications to suit local conditions is a necessary part of statistical development and should be encouraged. At the same time, countries should try as much as possible to develop concepts which are internationally comparable.
5. This summary of recommendations should be considered together with the report of the Working Group on Recommendations for the 1980 Population and Housing Censuses in Africa and document E/CN.14/CAS.10/15 "Study on Methods and Problems of the 1970 Round of African Population and Housing Censuses."

III. RECOMMENDATIONS

1. Programming and organisation of censuses

1.1 Legal basis of the census

It is essential that the countries ensure in advance the availability of an adequate legal basis for the census so that the relevant operations which need a long period to be carried out can be initiated in a timely manner and

with appropriate funding. The legal basis for the census should also guarantee the confidentiality of individual responses to census questions.

1.2 Census calendar

It is necessary to undertake a careful evaluation, in terms of phasing in time and in space, of all the operations which fall under the implementation of a population census. An initial calendar should be drawn up first to enable the local authorities and donor agencies to have a better idea of the various aspects of the census, particularly in relation to the budget. Once the project has been approved, a revision of the initial calendar should be undertaken with the ultimate objective of determining the final dates as soon as possible.

1.3 Central census bureau

It is recommended that African countries should establish a permanent census bureau or nucleus thereof composed of qualified statisticians, demographers and specialists in cartography, data processing, etc. to ensure the continuity of post-enumeration activities and the preparation of the next census. This team should be strengthened during the census taking to enable it to deal with the numerous and difficult tasks to be completed. It is also recommended that qualified personnel should be seconded from other departments of the administration since the statistical office may not possess all the experts required. Also it is important that the activities of the census bureau should be integrated within the national statistical programme.

1.4 Census committees or commissions

The suitability of setting up census committees (national committee, technical committee, publicity committee, etc.) should be examined in the light of local needs and conditions.

2. Budget

It is necessary to draw up the budget after prior identification of all the operations required for the implementation of the census and preparation of an appropriate time-table of operations. This budget should take account of all the expenditure needed for the implementation of the various stages of the census, from the preparatory phase up to the analysis, publication and dissemination of results.

It is recommended that the budget should be approved without delay and that the financial procedures concerning its management should be as simple as possible to ensure that the release of the funds required for the implementation of the operations will be in accordance with the census time-table.

Finally, it is strongly felt that experts assigned to countries should not deal with financial matters but devote their time to technical tasks entrusted to them.

3. Census cartography

(a) Maps should be prepared for population and housing censuses. These should include Enumeration Area (E.A.) maps which should show clearly the boundaries of the area to be covered by each enumerator. These E.A. maps should also show the adjoining areas. In addition, Supervision Area (S.A.) and/or Controller's Area Maps which should indicate the area under each Supervisor and/or Controller with each E.A. clearly delineated should be drawn. Each map should show sufficient detail to enable all boundaries to be identified unambiguously on the ground.

(b) The E.A. and S.A. maps should be used for the enumeration and for any post-enumeration check of coverage.

(c) Cartographic Units should be retained within Statistical or Census Offices after the census to up-date census maps and also to exercise proper control over the filing of census maps.

(d) A census atlas, containing maps of population characteristics, should be prepared in those countries with the necessary resources for doing so.

(e) If it becomes very necessary to change the boundaries of administrative divisions, it should be ensured that E.A's fall wholly within the new administrative divisions.

4. Census publicity

(a) A carefully planned census communications programme which aims at making the general population as well as officials aware of the objectives and scope of the census should be designed, using all the conventional and non-conventional communications media.

(b) In this communications campaign, care must be taken to ensure that attractive promises are not made and that threats are not used. The former has the usual effect of inflating the population figure and the latter leads to serious under coverage errors.

5. Concepts, definitions and classifications

(a) Where international concepts, definitions and classifications are used, attempts should be made to adapt them to local conditions.

(b) In particular where international classifications such as the International Standard Classification of Occupation or the International Standard Industrial Classification are adapted to local conditions, it might be useful if conversion tables could be prepared to show the conversion from the national to the international classification or vice versa.

(c) The following are the recommended and other useful topics:

A. Geographic Characteristics

* Place where found at time of census
* Place of usual residence
* Place of birth
* Duration of residence
* Place of work
* Total population (D)
* Locality (D)
* Urban and rural (D)

B. Demographic and social characteristics

(i) FOR ALL PERSONS

* Age
* Sex
* Relationship to head of household
* Nationality

Ethnic group

* Survival of parents

(ii) FOR EVERY PERSONS AGED 5 YEARS OR MORE

* School attendance
* Educational attainment

(D) Derived topics
* Recommended topics

(iii) FOR EVERY PERSON AGED 10 YEARS OR MORE

* Literacy

Religion

(iv) FOR EVERY PERSON AGED 15 YEARS OR MORE

* Marital status

Form of marriage

Number of spouses

Age at marriage

Duration of marriage

(v) FOR EVERY WOMAN AGED .... YEARS OR MORE

* Number of children born alive

* Children living

Most recent live birth

* Births during last 12 months

* Deaths during last 12 months

(vi) FOR EACH HOUSEHOLD

Household size (D)

Household composition (D)

Births during last 12 months

Deaths during last 12 months

C. Economic characteristics

* Type of activity

* Occupation

Type of establishment

* Industry

* Employment status

Number of employed persons in household (D)

D. Community-level variables

Source of water-supply

Availability of electricity

Availability of primary school

Distance from nearest hospital/clinic/health centre

(D) Derived topics

* Recommended topics

E. Housing conditions

* Number of houses
* Type of housing unit
* Type of occupancy
* Material of wall
* Material of roof
* Material of floor
* Source of water supply
* Source of light
* Source of fuel
* Type of toilet
* Number of rooms
* Bathing facilities

(d) The following are the recommended minimum list of tabulations:

(1) Total population and population of major and minor civil divisions, by urban/rural residence and sex

(2) Population in localities by size-class of locality and sex

(3) Population of principal localities and of their urban agglomerations, by sex

(4) Households, population in households by size of household, and number of persons not living in households

(5) Population by single years of age and sex

(6) Population by five-year age groups and sex

(7) Population aged 15 years and over by sex, age and maritial status

(8) Native and foreign-born population by age and sex

(9) Foreign-born population by country of birth, age and sex

(10) Population 10 years of age and over by type of activity, age and sex

(11) Economically active population by industry, age and sex

(12) Economically active population by occupation, age and sex

* Recommended topics

(13) Economically active population by age, sex, occupation (selected list) and industry (selected list)

(14) Economically active population by status, age and sex

(15) Economically active population by status, occupation and sex

(16) Female population.....years of age and over by type of activity, marital status and age

(17) Population 10 years of age and over by literacy, age and sex

(18) Population 25 years of age and over by educational attainment, age and sex

(19) Population 6 to 24 years of age by school attendance, educational attainment, age and sex

(20) Population 6 to 24 years of age by school attendance, single years of age and sex

(21) Female population 12 years of age and over by age and number of children born alive

(22) Female population 12 years of age and over by age and number of children living

(23) Population by sex, age and relationship to head of household

(24) Population by sex, age and nationality

(25) Population by five-year age group, survivorship of parents and sex

(26) Female population aged..... by age and number of children born during the 12 months preceding the census/survey

(27) Female population.....years of age and over by five-year age group, number and sex of children who died during the 12 months preceding the census/survey

(28) Population by sex, age, region of birth and region of enumeration

(29) Population by sex, age, place of usual residence and place of enumeration

(30) Population by sex, age, place of birth (in relation to place of enumeration) and duration of present residence

(31) Population..... years of age and over by sex, age, place of work and place of usual residence

(32) Households and persons in households by sex, marital status, nationality and age of head of household and type of living quarters

(33) Households and persons in conventional dwellings by type of occupancy (tenure of household)

(34) Dwellings, households and population by material of wall and material of roof

(35) Dwellings, households and population by material of wall and material of floor

(36) Dwellings, households and populatinn by material of roof and material of floor

(37) Living quarters, households and persons in living quarters by type of living quarters and water supply system

(38) Occupied conventional dwellings and persons in dwellings by type of lighting

(39) Households and populatinn by type of fuel used for cooking

(40) Occupied living quarters, households and persons in living quarters by type of living quarters and type of toilet facility

(41) Occupied conventional dwellings, households and persons in dwellings by type of bathing facility

(42) Conventional dwellings by number of rooms and number of occupants per dwelling

(43) Dwellings by number of households

6. Census procedures

It is desirable to observe the principle of simultaneity in enumeration to reduce coverage errors and to avoid difficulties with regard to the fixing of the reference date and the necessity to adjust the results at the national level.

7. Census Documents

(i) It is recommended that precoded questions should be used to reduce coding errors and the work relating to preparation of information for data entry.

(ii) Historical calendars to estimate the age of respondents, especially in rural areas should also be prepared. These historical calendars should be prepared at a more appropriate local level.

8. Census tests

(i) If possible, two pretests should be carried out before the census: (a) a first field test which might indicate some of the problems which will require further investigation, and (b) a pilot census which should be a full-dress rehearsal for the census.

(ii) The results of all tests should be fully analysed and utilised.

9. Use of sampling

(i) As far as desirable, sampling should be used in the different stages and aspects of the census operation: census tests, data collection, quality control, coverage and content error evaluation, tabulation, etc.

(ii) Inbuilt sample procedures are preferable to the PES for additional information.

(iii) The use of ratio estimators where applicable should be encouraged as they tend to reduce variances.

(iv) The standard errors of estimates for the most important tables derived from the results of sample surveys should always be provided as a guide to the user of the statistics.

10. Recruitment and Training

(i) It is necessary to forecast, recruit and train demographer analysts in sufficient numbers to undertake the analysis of census data, an aspect which has been overlooked in the past.

(ii) The training of teachers used in the census should be spaced to avoid disruption of school activities over a long period.

11. Data processing

(i) Many countries of the region are short of staff with expertise in data processing; governments are requested to recruit and train an adequate number of staff so that processing of census returns becomes less dependent on the availability of expatriate expertise;

(ii) Some institutes on the African continent offer training facilities for computer systems analysts and programmers. The governments of the region are invited to nominate their candidates for training and ECA is requested to assist interested governments in obtaining fellowships for their candidates;

(iii) In view of the training facility at Libreville for French-speaking candidates, ECA is requested to examine the possibility of establishing a similar institute for training English-speaking candidates of the region to become computer specialists. It was noted, however, that the training facility in Libreville may need to be expanded at a later date;

(iv) The conditions of service for data processing staff need to be improved in many countries of the region to prevent the loss of trained and experienced staff and also to attract junior staff;

(v) To prevent the delay of tabulation programmes by the premature termination of an expatriate expert's contract, such contracts should cover the entire period of work until all tabulations are completed;

(vi) To co-ordinate similar and repeated efforts of the countries of the region and to reduce much of the work duplication, ECA should arrange workshops on census system design and programming for national data processing personnel, and on system layout and specification for statisticians, demographers and data processing experts;

(vii) ECA and/or the UN Statistical Office, New York are requested to compile guidelines for statisticians and demographers on organizing census data collection in the light of needs for census data processing to establish a link between both disciplines; and ensure that census enumeration and census data processing can emerge as one integrated system of data collection and exploitation;

(viii) Photo-offset printing of computer print-outs should be generally applied to accelerate availability of census results.

12. Coverage and Content Error Evaluation

(i) A post enumeration survey for census evaluation should be planned, organized and executed as an integral part of the census;

(ii) Evaluations of content errors should usually not be part of a post enumeration survey but should be undertaken through analytical techniques and by the use of special surveys, e.g. labour force prior or just after a census.

13. Analysis of Census Results

(i) Plan for analysis of results and reports should be part and parcel of the overall plan for the census and not thought of later on after the data processing is over;

(ii) A data users conference should be called at the stage of discussing the various types of data to be canvassed in addition to circulating proposed questionnaires;

(iii) Special tabulations may be made available as far as this is feasible to bonafide individuals, institutions or ogranizations for study and research. In fact, it is necessary to involve such organizations and research institutions at all stages of the census operations in view of the limited manpower resources in many African countries;

(iv) Where experts are used in the evaluation and analyses of the census results, it is essential that local personnel should be fully involved with the objective of their being trained to attain self-sufficiency.

14. Publication and Dissemination

(i) Volumes containing tables as well as the analytical and administrative reports should be published;

(ii) Census results should be published as soon as possible after the census, making use of modern techniques which allow for timely publication of results;

(iii) Census information should be widely disseminated not only to policy makers, planners, administrators and researchers but also to the general public;

(iv) The exchange of publications between Statistical Offices is highly desirable.

15. Technical Assistance

(i) The diversity of conditions in the African region should be a primary consideration in formulating arrangements for external assistance. Some countries are already well-equipped for census operations but others, particularly those which have recently become independent or will do so in the near future, need assistance at the same level as that given during the African Census Programme.

(ii) The effectiveness of large-scale efforts to develop specific aspects of African statistics was demonstrated by the African Census Programme and work along these lines should be maintained in the future, particularly through the African Household Survey Capability Programme and the continuation of assistance to census operations. However such efforts should not be organised on an emergency basis; the primary requirement is national commitment to the objectives of each programme, after full examination by the Conference of African Statisticians